

PHENIX WEEKLY PLANNING



July 3, 2014
Don Lynch

- Run 14 Comes to an end
- No scheduled access for remainder this week
- DAQ problems addressed
- Plan for 2014 Shutdown
- Tech Support for Run 14 as required
- Support for sPHENIX efforts as required
- 4th of July Holiday tomorrow, lab closed for regular work



Next Week

- Run 14 ends Sunday July 6, 8:00 AM
- Move WC to wall (move EC?)
- 7/6-7/10 Post shutdown tests: VTX, FVTX, MPC-Ex, MuID
- 7/7 begin Flammable gas purge (except MuID)
- 7/9 remove MuID collars
- 7/9 by end of day begin MuID purge
- 7/7-7/9 prepare for opening shield wall and moving EC
- 7/10 open shield wall, begin disassembly
- After post shutdown tests are completed, begin VTX/FVTX disassembly
- Support for sPHENIX efforts as required

2014 planned Technical Support & 2014 Shutdown

TECHNICAL SUPPORT 2014

Support for run 14	2/3-7/7/2014
Procure & Fabricate parts for MPC-Ex North and South	Done
Set up Physics lab for FVTX/VTX east	Done
End of Run Party	Done
MuID Efficiency Measurement (Itaru, requires cooling water & isobutane)	
VTX /FVTX Cold/warm tests & evaluation, MPC-Ex Voltage tests	7/7-7/10/2014
Start of Shutdown Tasks (purge flammable gas, disassemble and stow shield wall, remove collars, move EC to AH, Move MMS south, etc.)	
Remove FVTX/VTX East (West?) to PHYSICS, repair and reinstall	7/7 – 7/25/2014
Place FVTX/VTX West in safe condition in-situ ?	7/14 – 10/15/2014
VTX/FVTX Upgrade cooling lines, chiller preventive maintenance	7/14-7/18
Remove MMS east vertical lampshade	7/21-10/6/2014
Troubleshoot intermittent water leak in MMS	7/28-7/30/2014
Other Maint. In MMS	7/30- 8/8/2014
Reinstall MMS east vertical lampshade	TBD
Summer Sunday prep AH, tours and restore AH	TBD
Install scaffolding in Sta 1 South	7/30-8/15/2014
Remove MPC-Ex prototype	7/28/2014
MuTr Sta 1 South troubleshooting and repairs	7/28-8/1/2014
Maint. & Repairs for MPC South, BBC South, RPC1 South1	7/28-8/1/2014
Assemble & test MPC-Ex North, ready for installation	7/28-8/1/2014
Remove scaffolding from sta 1 south, Move CM South	8/1-9/5/2014
Install scaffolding in Sta 1 North	8/4-8/5/2014
MuTr Sta 1 & Sta. North troubleshooting and repairs	8/6-8/8/2014
Prep MPC-Ex North installation area	8/11-9/5/2014
MPC North-remove damaged, repair as necessary, re-install	8/18-8/29/2014
Install new MPC-Ex North	
Assemble & test MPC-Ex South, ready for installation	9/8-9/26/2014
	9/2-10/3/2014

2014 planned Technical Support & 2014 Shutdown (cont'd)

TECHNICAL SUPPORT 2014

Remove Sta 1 N scaffolds, Move CM North, Install scaffolding in Sta 1 S	9/29-10/3/2014
Install MPC-Ex South	10/6-10/24/2014
Other detector support	TBD
Infrastructure Maintenance and Improvement	TBD
Decommissioning of obsolete PHENIX detector equipment	TBD
sPHENIX Support	on-going
End of Shutdown Tasks (Move MS north, roll in EC , install collars, remove 10 ton cart, plates and manlifts, build shield wall, etc.)	10/27-11/26/2014
DC East & West maintenance & repairs	11/17-12/5
Pink/White/Blue Sheets	12/1-12/19/2014
End of Shutdown Party	????
Start Flammable gas flow	????
Close shield wall, install radiation interlocks and prepare for run 14	12/31/2014
Start run 15	1/2/2015

Muon Tracker Shutdown Work List – summer 2014

- testing as MPC-EX installed, particularly before closing Sta-1's
- fix North Arcnet – N.2.7.1, North Sta-2 Oct-7 Chassis-1 (bad cable?)
- fix packets that were disabled for Run14
 - 11035,36 – South Sta-1 Quad-4 Chassis-3
 - 11267,68 – North Sta-2 Oct-7 Chassis-2
- replace boards for most frequent FEM problems from run
 - 11195 - North Sta-1 Quad-3 Chassis-3?
 - might have already done this; check history (changed RX 3/14/12)
 - 11064 – South Sta-2 Oct-3 Chassis-3 - unreachable
- N341 HV trip problem?
- auto-reboots of ArcNet and iocondev's for calibration?
- Access needed:
 - South & North Sta-1
 - Inside North Sta-2 on bottom
- Main Issue – Manpower

Work Permits for 2014 Shutdown

- **Start of Shutdown - Done**
- **VTX/FVTX East - Done, at CAD for approval**
- **MPC-Ex - Done, at CAD for approval**
- **MuTr Sta 1 N & S - Done, at CAD for approval (scaffold agreement done)**
- MuTr North station 2/3
- MuTr South station 2/3
- MMS South Water leak
- DC East/West
- MPC North
- RPC 1 North/South ?
- End of Shutdown

(F)VTX July Shutdown Work Schedule

- July 7: FVTX Work
 - Temperature at 0°C
 - Final Calibrations
 - ROC Power Studies
 - Wedge Bias Studies
 - Total Time: 4–6 hours
- July 8–9: VTX StriPixel Work
 - Bias studies
 - Change N2 flow rates
 - VTX/FVTX Powered on/off
 - Increase coolant temperatures
- July 7–9: VTX Pixel Work
 - Pixel SC code development for test pulse mode
- July 10:
 - Start final warm up to room temperatures
- West side retracted:
 - FVTX investigate NW5 optical transmitter

(F)VTX 510 Work

- FVTX:
 - Replace ROCs as needed
 - System testing
- VTX Pixels
 - Evaluate B1–L11:
Requires FVTX cages and bigwheels to be removed
- VTX StriPixels
 - Evaluate B3–L16:
Requires FVTX cages and Bigwheels to be removed
- General:
 - Improved gas seal
 - Improved N2 distribution.



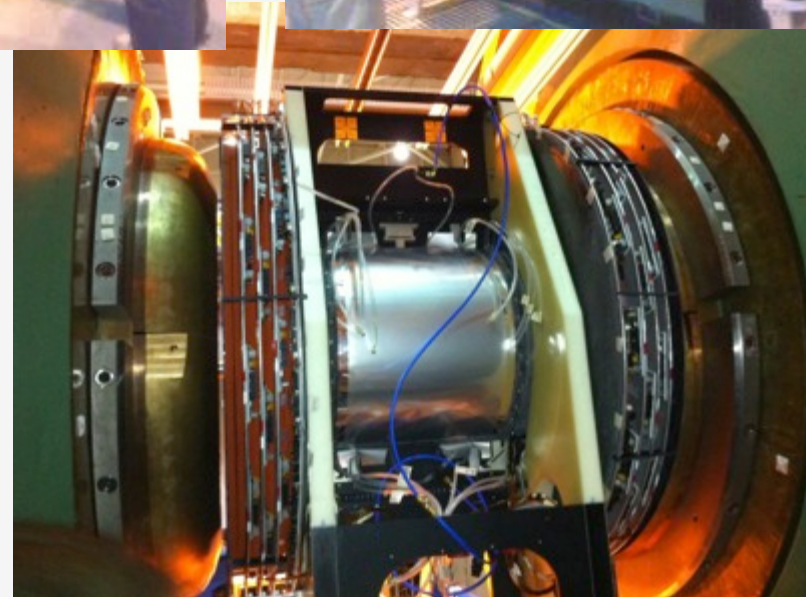
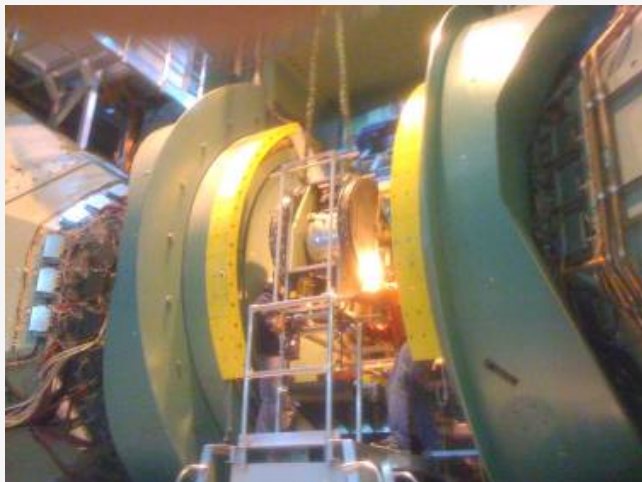
VTX/FVTX east repairs/upgrades required

West to remain installed ??

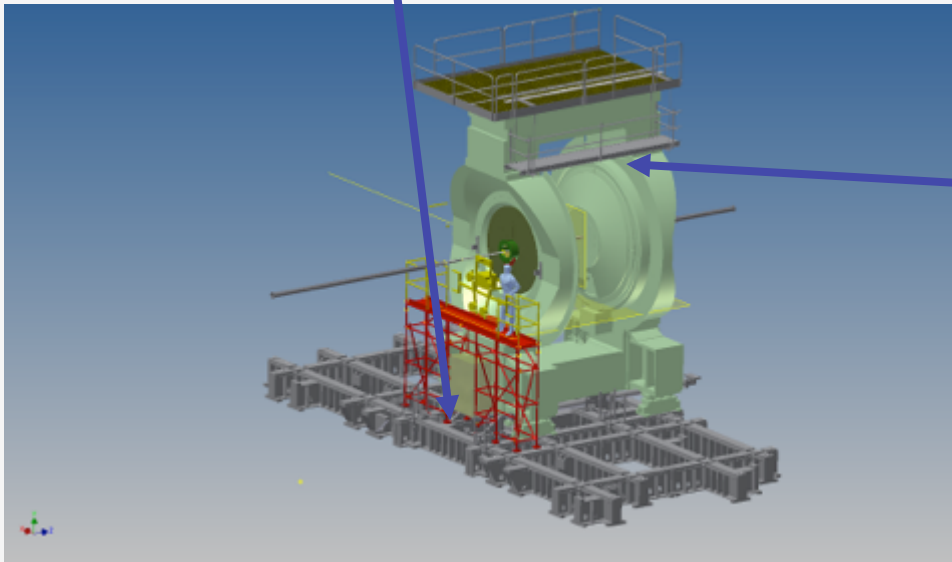
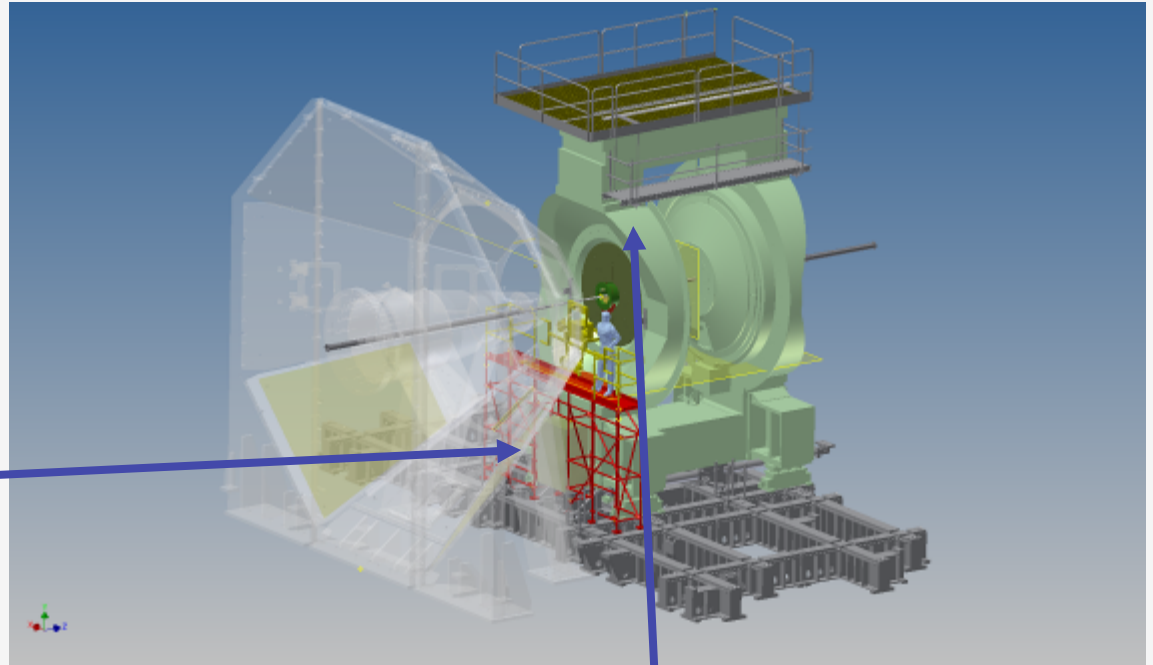


7/3/2014

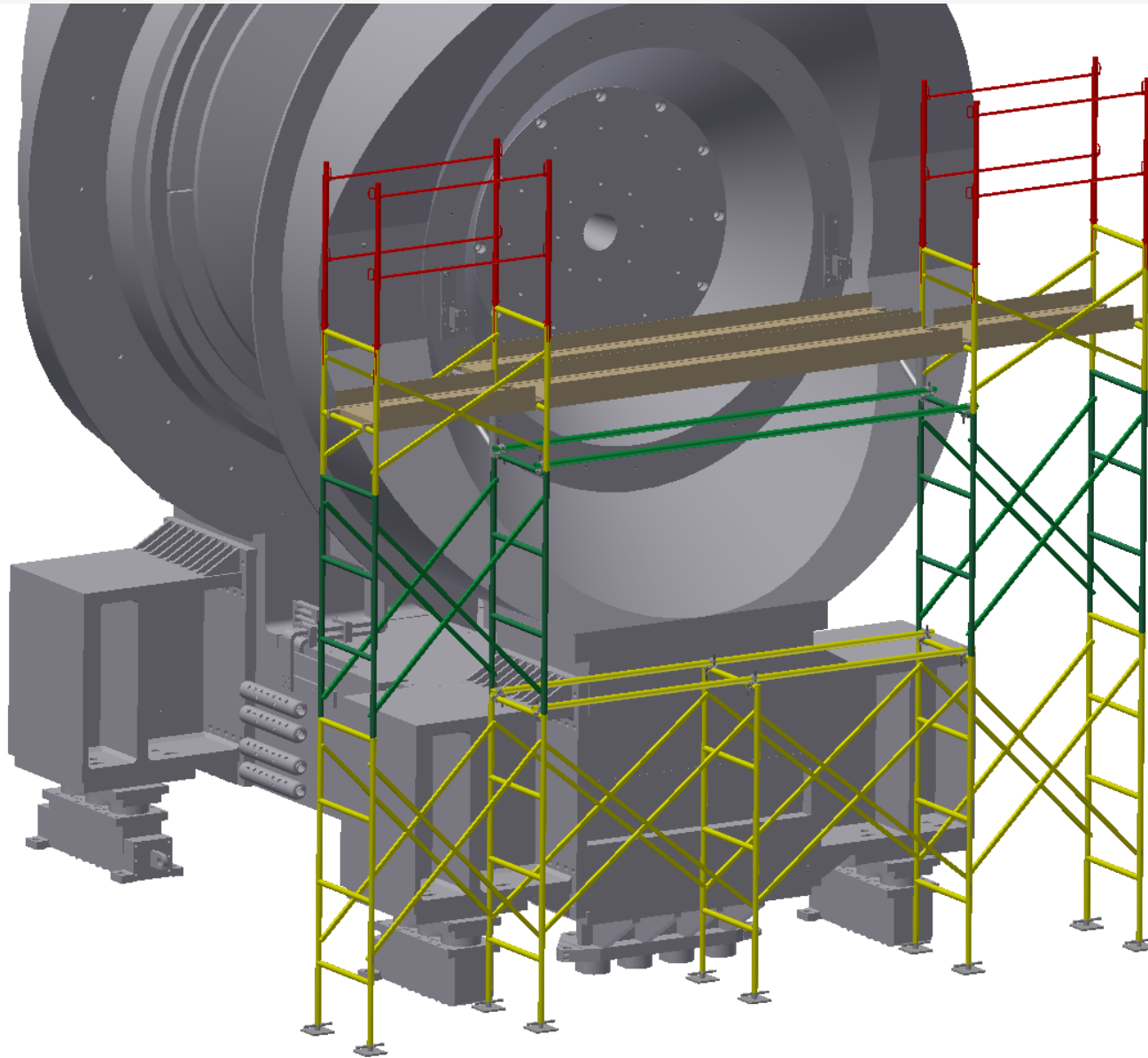
VTX Installation 2010,
2011 & 2012. 2014 Removal
and re-installation will be
essentially the same.



Station 1 platform configured for lower level access shown with North Muon Magnet in phantom for reference and invisible for clarity.

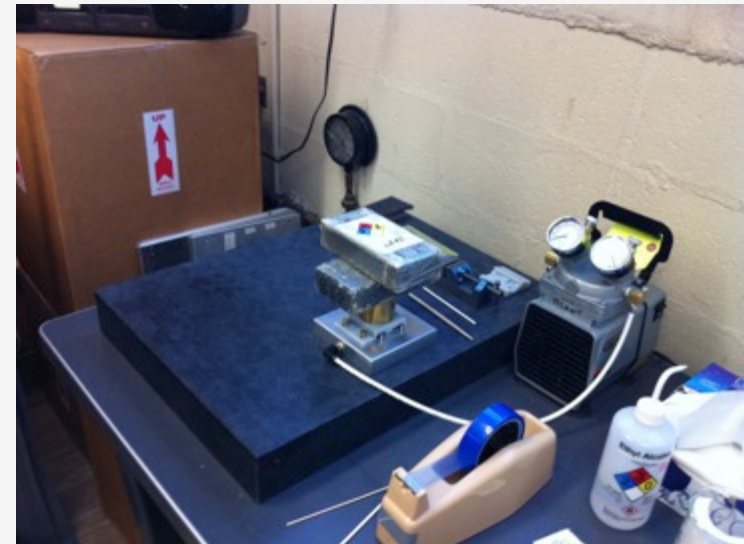
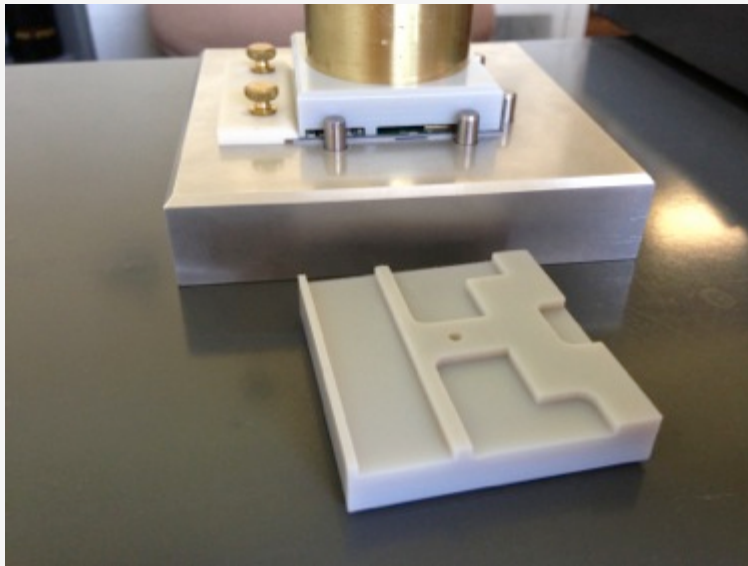
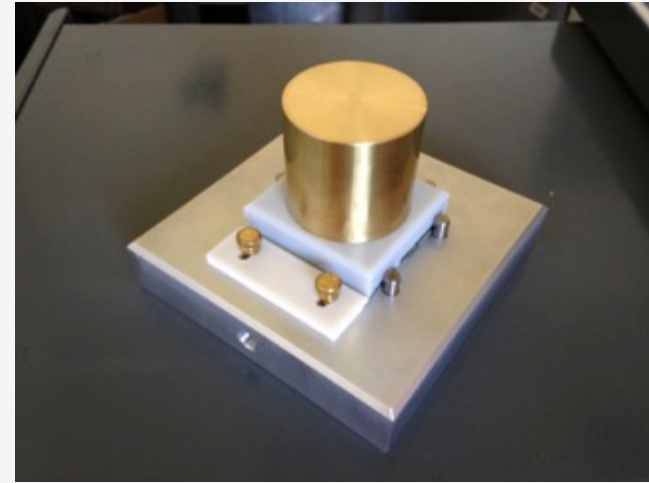
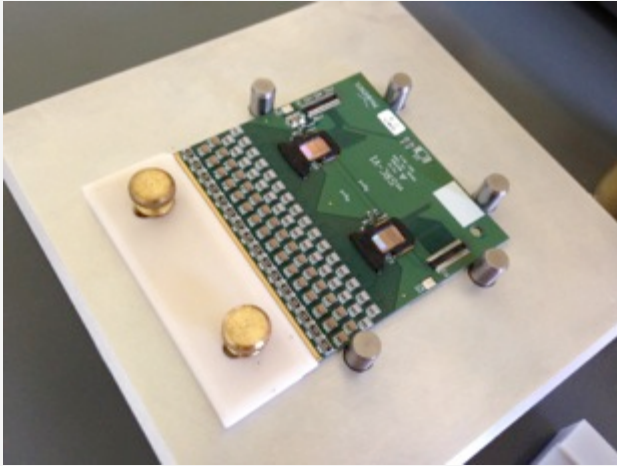


Central Magnet suspended work platform also shown in both models, but not needed for 2014 shutdown.



SAFWAY
Scaffolding
arrangement
for upper access.
Ladder and MMN
not shown for
clarity.

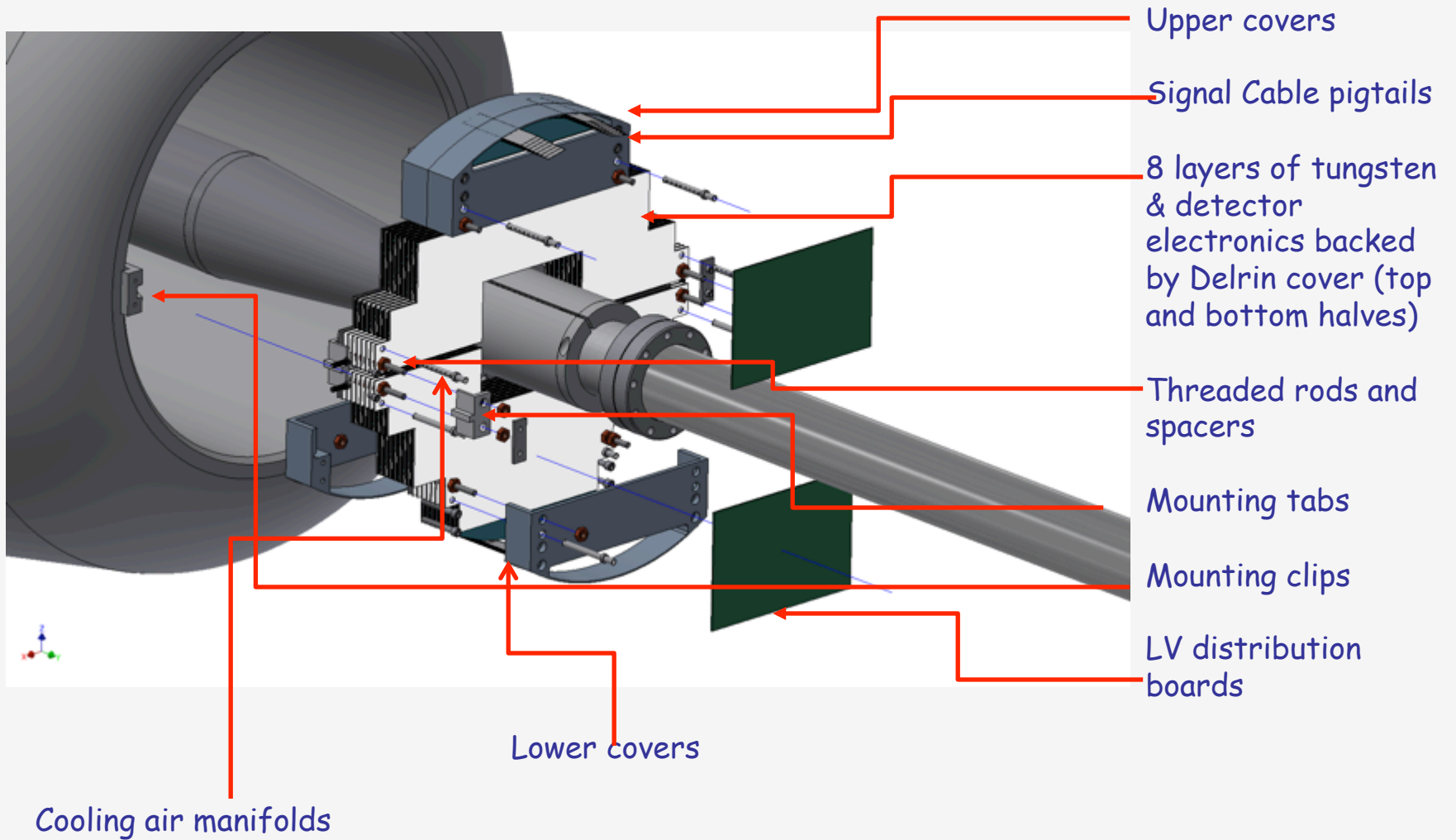
Configuration
required for space
between CM and
MMS is similar.



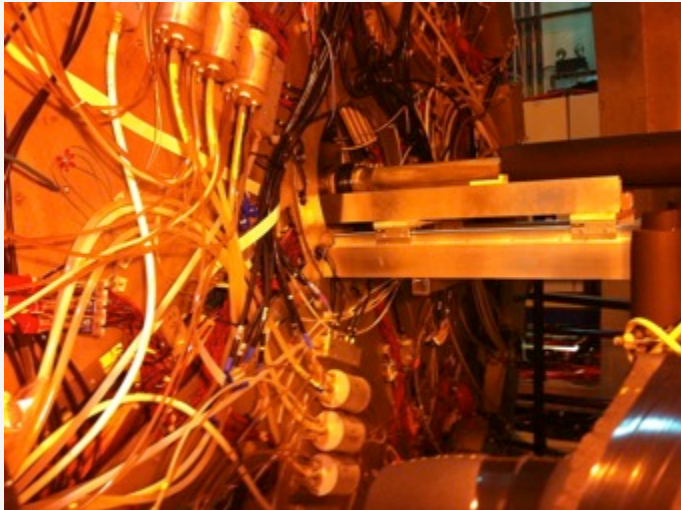
Micromodule Gluing tool micromodule parts and glued assembly currently in production

MPC-Ex Exploded view

TECHNICAL SUPPORT NO. 4



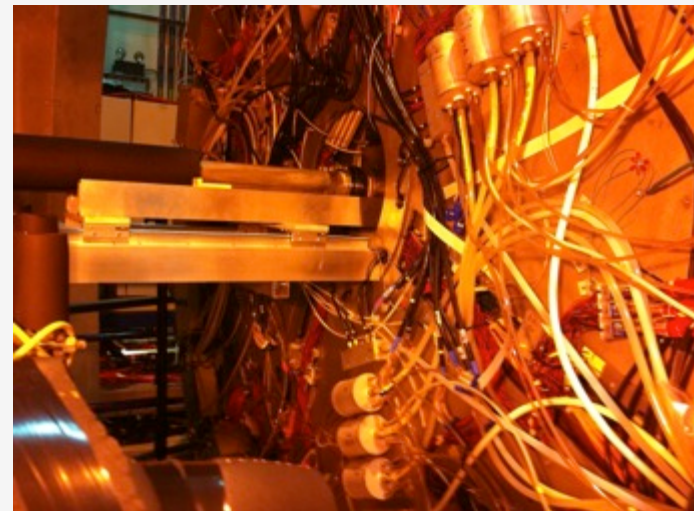
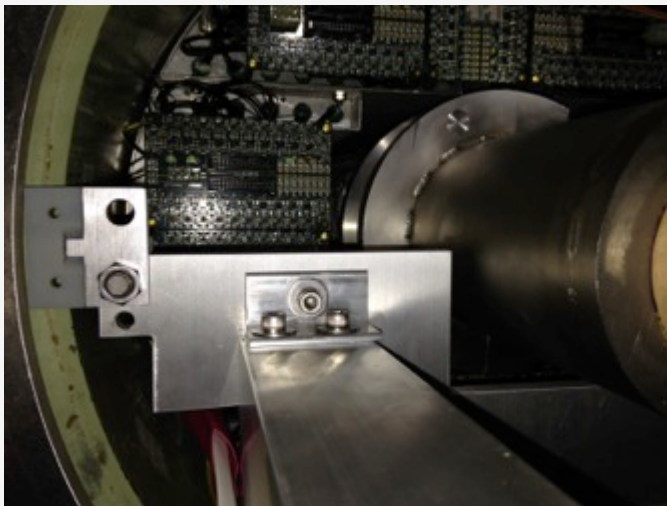
MPC-Ex N & S Final Installations This summer



Working on North BP support design

Tungsten plates received, QC acceptable

Additional parts ordered from CS due end of June



7/3/2014

MPC-Ex Project Summary

(1) Stony Brook in charge of MPC-EX testing

(2) Testbeam effort at SLAC concluded: one MPC-EX hemisphere with 8 tungsten layers and 4X and 4Y carrier boards one micromodule on each layer, partial assembly to be returned to BNL by July 7.

(3) Current Parts Dispositions:

Sent to Stony Brook for tests:

- 8 (4 x and 4 y) carrier boards laminated to 'W' plates (new plates).
- 3 loose carrier boards for testing (one missing a connector)
- 50 brass spacer nuts
- 4 SS 1/4 - 20 x 4" studs
- 4 rapid prototyped spacers
- 1 micromodule

Mike Lenz office:

- 1 Assembly fixture
- 3 Delrin covers (in the shape of the 'W' plates)
- 6 'W' plates (new plates) (all laminated, 5 are in Mike's 's office, Sarah took 1 to 1008 for tests)**
- 100 brass spacer nuts**

At Central shops/Instrumentation (due 7/11/14):

4 additional sets of micro-module assembly fixtures (bases at Instrumentation for 3D printing)

Jim LaBounty's office:

Installation assembly parts (to be itemized)

(Additional parts in currently installed partial South prototype to be itemized)

MPC-Ex Schedule considerations, Cont'd

Current Parts Dispositions (cont'd):

Sensors

All sensors received

Micromodules:

450 ROC's ordered: all at BNL

The electronics for the FEM is designed and at Sierra for manufacture and assembly. The FEMs have four readout inputs, so there will be eight FEMs per arm. two FEMs per box, four locations on the magnet for each arm.

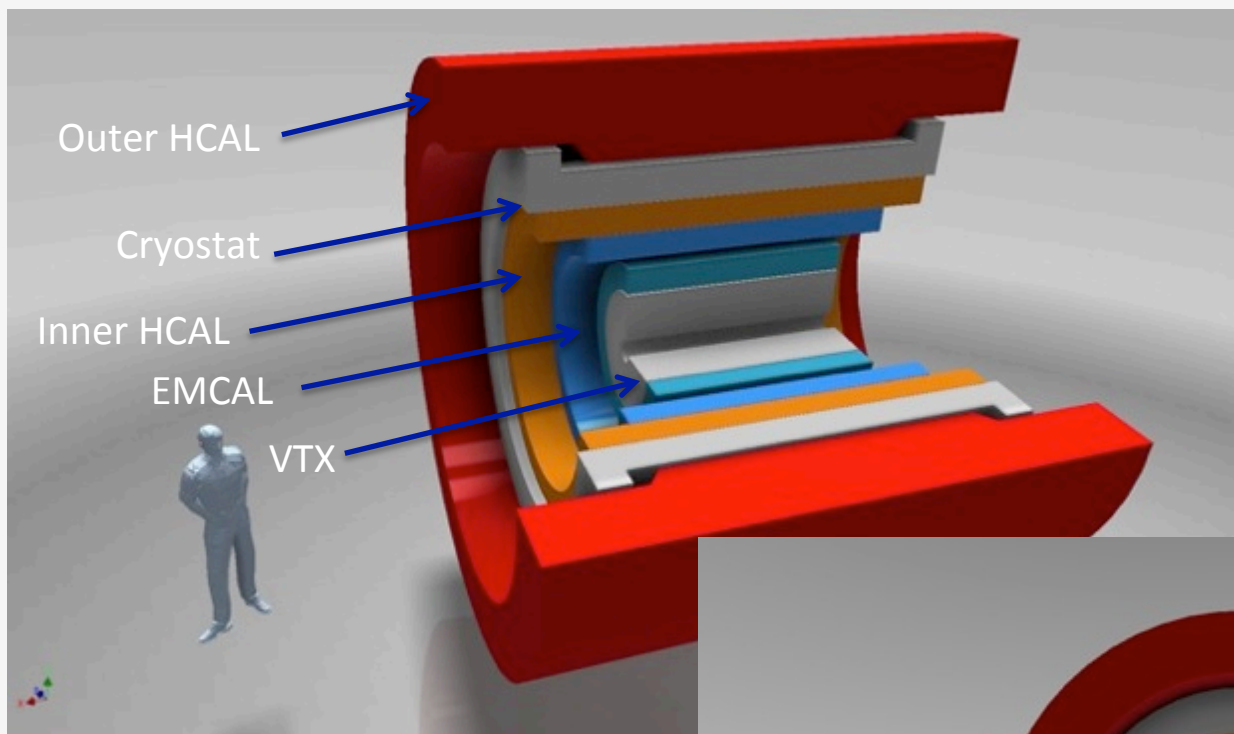
(4) Assembly Plan

- After receipt at BNL, ROC's are inspected and sent to Quik Pak with SVX4 chips for wirebonding the chips to the ROC
- ROCs returned to BNL and inspected
- BNL wirebonds the sensors and assembles the micromodules
- Micromodules sent to Stony Brook for testing
- Final assembly into MPC-Ex N & S at Stony Brook, PHENIX tech to participate and assure QC
- Return assemblies to PHENIX for installation in accordance with current shutdown schedule

Other Shutdown work:

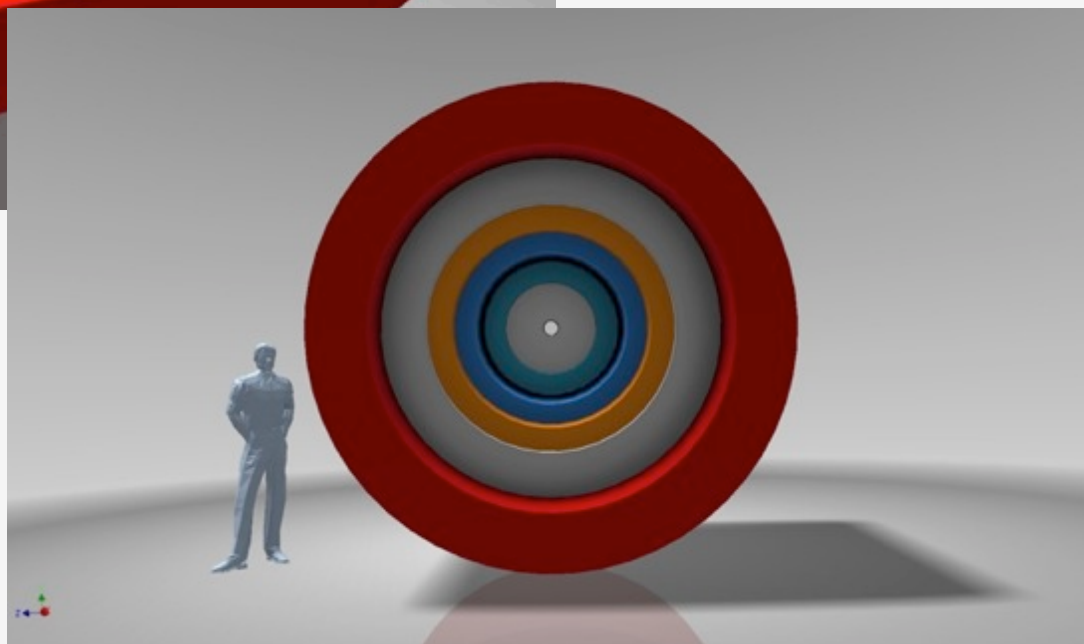
Request from E. Kistenev for 1 FCal module for R&D

- can be removed from north or south FCal ?
- Difficulty ?
- WP needed ?
- Comments ?



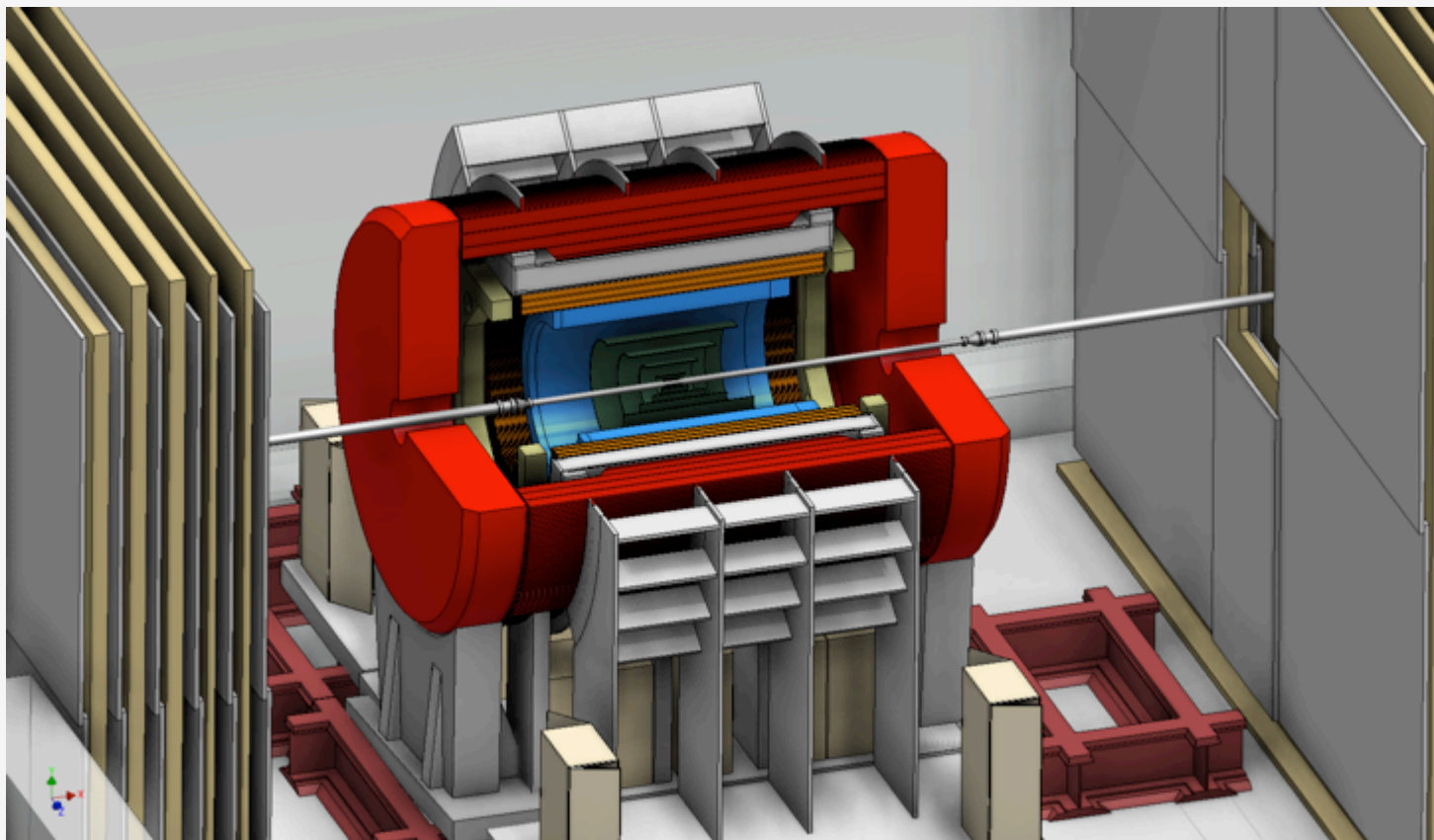
DOE Review this week

Favorable feedback



Design efforts over the next few months will include several areas of emphasis:

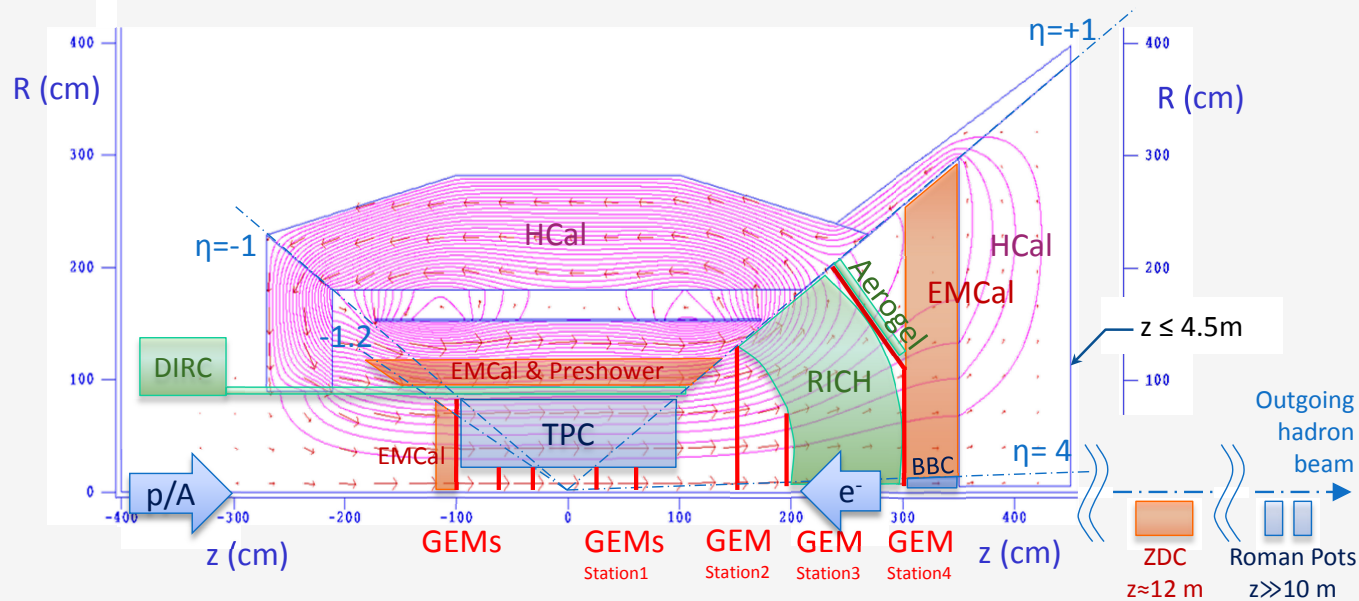
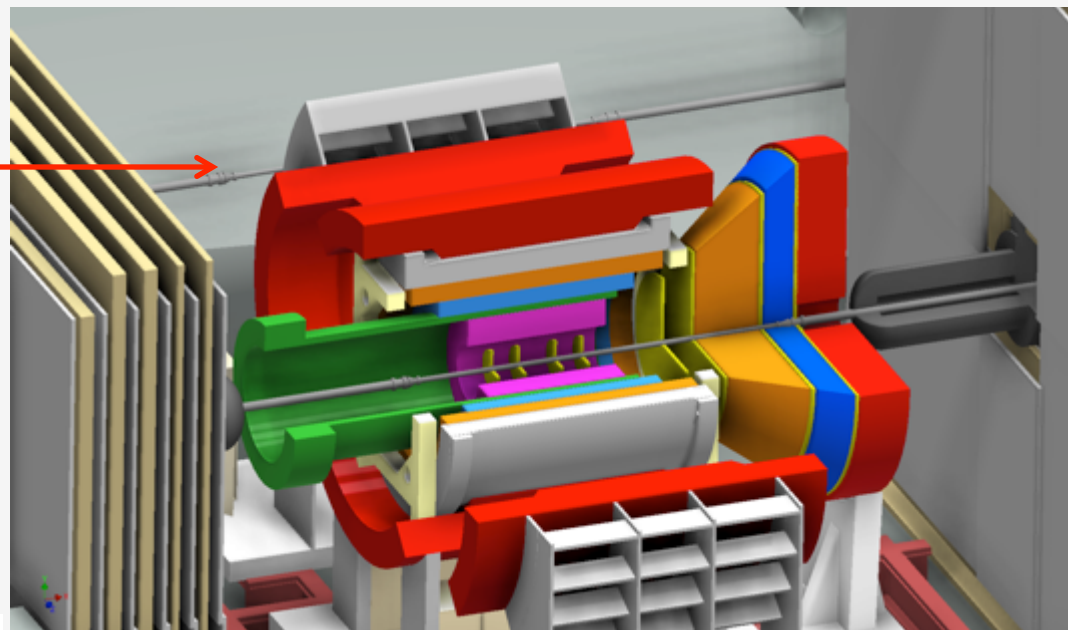
(a) incorporating a more detailed flux return (cap) design

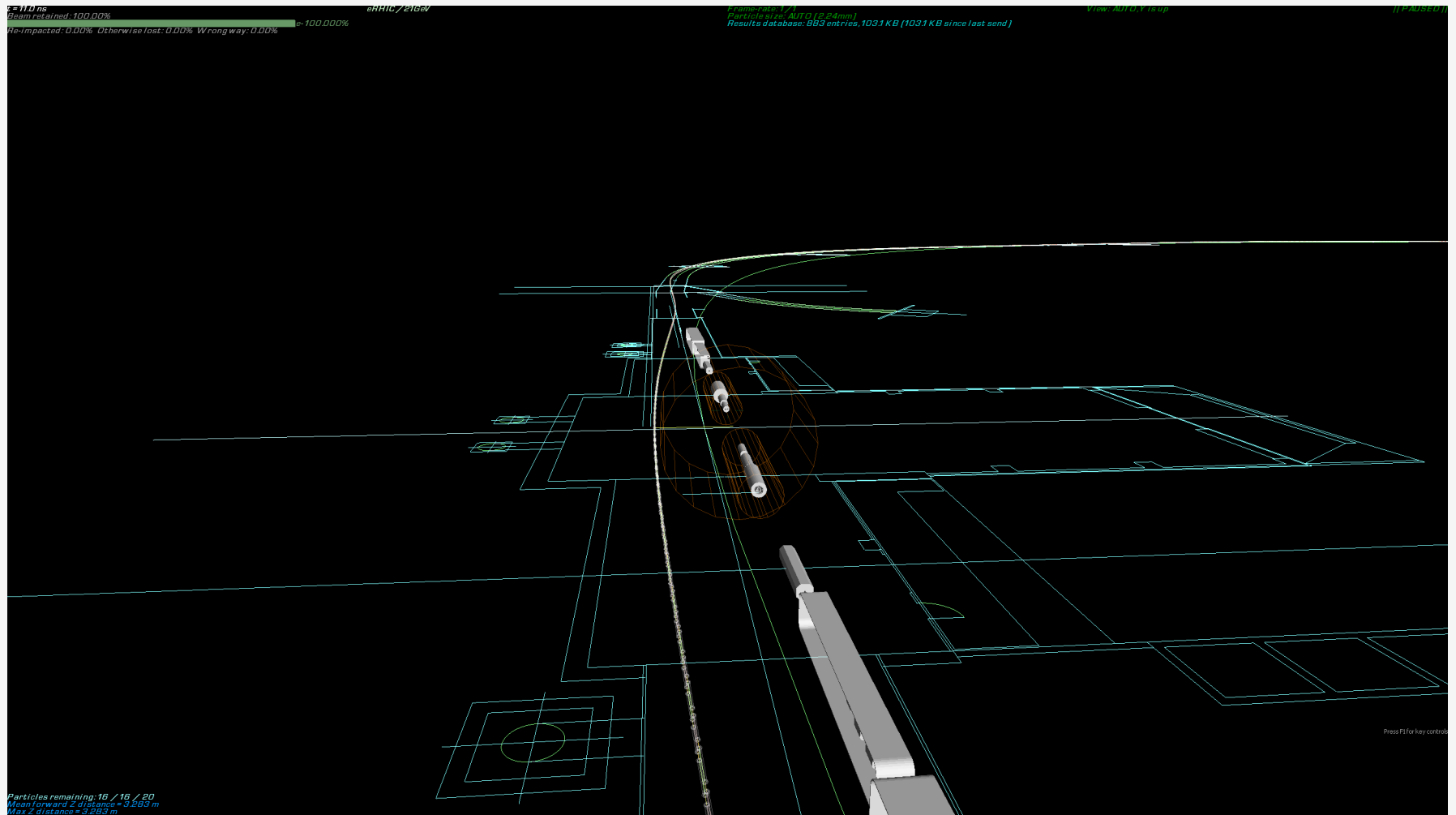


Basic sPHENIX model cutaway (updated)

2ft high x 1 ft wide
clearance needed
for e-ring
components

ePHENIX





PHENIX Safety and Security

From Ray Karol

1. Compressed Gas Cylinders:

BNL has been doing checks of gas cylinder storage the last few months following an assessment by BHSO earlier this year. The following findings are consistently being found. Please review your areas and fix any discrepancies ASAP so we ensure safety and avoid more intrusive corrective actions:

Themes of Findings:

- Tanks not identified
- Missing Status Tags
- Gas Missing in CMS Inventory
- Not secured properly
- No Cap

2. Don't do this: get engrossed in texting on your hand-held device while walking. According to a recent study at Stony Brook University Hospital, 1,500 people were treated in emergency rooms for cell phone-related injuries in 2012. If you use your cell phone while walking, you are 60 percent more likely to veer off course, walk into a pole, step off a curb, or get hit by a car. While injuries from texting while driving are usually more serious, the minor injuries from texting and walking happen more often and go unreported because people are embarrassed.

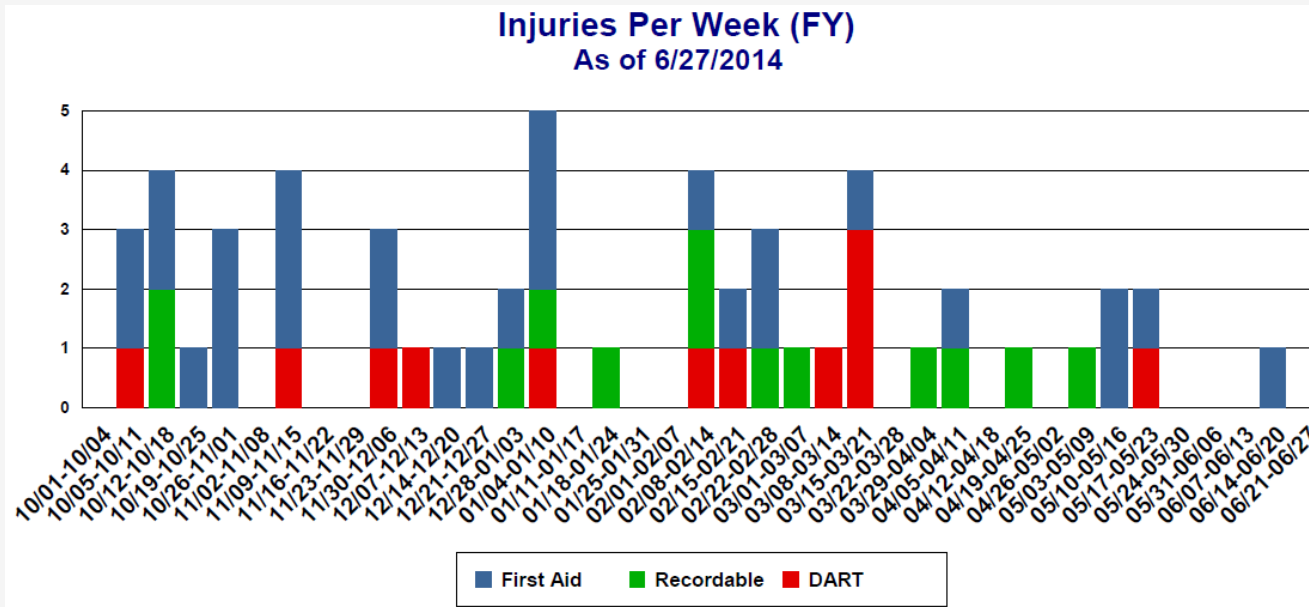
This leads to the topic of texting while driving. We've all seen people texting while driving on site. Obviously, getting into a car accident or hitting a pedestrian while texting would result in much more dire consequences. At 30 miles per hour, an accident can cause major injuries to a pedestrian as well as to yourself and damage to your car. Leave your phone or hand held device in your purse, briefcase, or pocket while driving. If you want to see who tried to contact you, then pull over to a safe spot on the side of the road first.



From Tina Morrison:

A major revision to the *Graded Approach for Requirements Subject Area* was published concurrently with major revisions to the *Work Planning and Control for Experiments and Operations* and the *Work Planning and Control Management System Description*.

- New Work Permit Form
- New Graded approach rubric
- Training for WCC's conducted



Injury Status:

FY14 YTD: DART – 12, TRC – 25, First Aid – 29

FY13: DART – 16, TRC – 38, First Aid – 53

FY12: DART – 19, TRC – 36, First Aid – 69

FY13 Injury Listing: <https://intranet.bnl.gov/esh/shsd/seg/Occlnj/BNLInjuries.aspx>

Recent Injuries

6/24/14	Info Only	A student was preparing a sample in a lab, when part broke off and was imbedded in his finger through the glove. At the OMC, first aid was given.
6/24/14	Info Only	A student injured his lower back while lifting weights after work. It was reported to the OMC the next day. First aid was given.
6/20/14	First Aid	An employee was coiling cable when he was struck in the eye by the loose end of the cable. After examination by the OMC, the worker was sent off-site to be evaluated further. He returned to normal duties.
6/19/14	Info Only	A student was riding a bicycle to a meeting and fell, injuring his arm. At the OMC, first aid was given.
6/17/14	Info Only	A student was working in a laboratory and lacerated his thumb on glass. At the OMC, first aid was given.



7/3/2014

Recent Events

6/27/14	Non-Reportable	During installation of a conduit north of Rutherford Dr. near Building 820, a backhoe struck and damaged an abandoned PVC pipe, buried 12 to 14 inches below the surface. The pipe was dry and after investigation by personnel from the Energy & Utilities Division, it was determined to be absent from the BNL utility map. The pipe will be patched and added to the utility map. There were no injuries or other damage resulting from this event. (Event Link)
6/20/14	Non-Reportable	A small oil leak (<5 gallons) from a compressor was discovered on Friday, June 20, 2014. When repairs were made the next day, a loss of approximately 125 pounds of Freon was determined to also have occurred. (Event Link)

7/3/2014

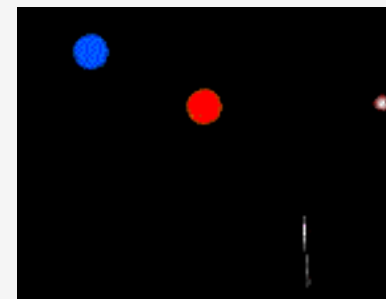
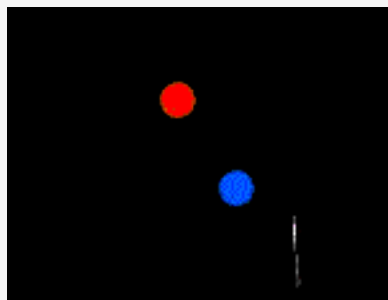
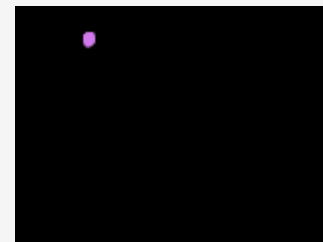
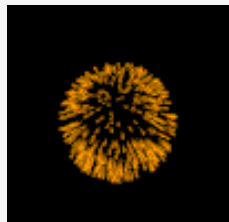


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Where To Find PHENIX Engineering Info

Run 14 Ends This Week !

4th of July National Holiday Tomorrow: Enjoy the long weekend



http://www.phenix.bnl.gov/WWW/INTEGRATION/ME&Integration/DRL_SSint-page.htm

7/3/2014



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